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EXAMINER

JONES, PRENELL P

ART UNIT	PAPER NUMBER
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2667

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/905,489

Applicant(s)

ALAM ET AL.

Examiner

Prenell P Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/13/2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-13 and 15-20 is/are rejected.
- 7) ☐ Claim(s) 7 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/13/2001.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claim 17 recites the limitation "at each transceiver" in line 2. There is insufficient antecedent basis for this limitation in the claim. Claim 18 depends on claim 17; therefore, claim 18 is rejected for the same reason that claim 18 is rejected.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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3. Claims 1-6, 8-12, 13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al in view of Bonta et al and Nikides.

Regarding claims 1-3, 8-10 and 16, Chang discloses (Abstract, Figs. 17A, 17B, 18, 19, 20, col. 1, line 57-67, col. 7, line 25-55, col. 9, line 1 thru col. 10, line 67) supporting power control as associated in a wireless/CDMA radio environment wherein quality indicator bits (QIB), which is a power control command, are extracted by the BTS, power control associated with frame periods, BTS sets frame content, BTS determines frame quality indicator (FQI), interface used to connect target BS with source BS to implement a soft handoff, (col. 14, line 12 thru col. 15, line 52) BTS performs a CRC check on radio frames and determines whether the frame is good based on CRC check/signal quality, and the architecture further comprises of BTS and BSC (base station controller). Chang is silent on determining power indicator based on power control trend. In analogous art, Bonta discloses (Abstract, Fig. 2 & 3, col. 2, line 2-36, col. 3, line 58-67, col. 4, line 15-49, col. 5, line 23-54) performing handoffs in a wireless communication environment wherein the system use environmental variables existing between mobiles and base station, whereby the variables may include radio signal strength indicator (RSSI), FER, BER, (col. 4, line 15-49) samples are used to analyze trend of the conditions leading up to poor signal quality as associated with environment variable measurements and power control and trend of measure as associated with a slope between an interval of measurements and Nikides discloses (Abstract, col. 2, line 1-62, col. 4, line 7 thru col. 8, line 41) signal quality measurements associated with a

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wireless communication environment, wherein signal quality estimate measurement are compared, a plurality of slope measurements are calculated based on a plurality of signal quality samples, trend information as associated with signal quality and power changes. Nikides further (col. 2, line 19-23, line 46-61) discloses control commands based on slope measurements associated with trend information and signal quality indicator comparison results. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to be motivated to implement determining power indicator based on control trend as taught by the combined teachings of Bonta and Nikides with the teachings of Chang for the purpose of further supporting power control as associated in a wireless communication system.

Regarding claims 4, 11 and 15, as indicated above, Chang discloses (Abstract, Figs. 17A, 17B, 18, 19, 20, col. 1, line 57-67) col. 7, line 25-55, col. 9, line 28 thru col. 10, line 67) supporting power control as associated in a wireless/CDMA radio environment wherein quality indicator bits (QIB), which is a power control command, are extracted by the BTS, power control associated with frame periods, BTS sets frame content, BTS determines frame quality indicator (FQI), interface used to connect target BS with source BS to implement a soft handoff, (col. 14, line 12 thru col. 15, line 52) BTS performs a CRC check on radio frames and determines whether the frame is good based on CRC check/signal quality. Chang further discloses (col. 14, line 51 thru col. 15, line 61) E_b/N_t (energy bit indicator) calculated based on bit energy to interference ratio as associated with quality indicator (FQI and QIB).

Regarding claims 5-6 and 12-13, as indicated above, Chang discloses (Abstract, Figs. 17A, 17B, 18, 19, 20, col. 1, line 57-67, col. 7, line 25-55, col. 9, line 28 thru col. 10, line 67) supporting power control as associated in a wireless/CDMA radio environment wherein quality indicator bits (QIB), which is a power control command, are extracted by the BTS, power control associated with frame periods, BTS sets frame content, BTS determines frame quality indicator (FQI), interface used to connect target BS with source BS to implement a soft handoff, (col. 14, line 12 thru col. 15, line 52) BTS performs a CRC check on radio frames and determines whether the frame is good based on CRC check/signal quality. Chang further discloses (col. 9, line 1 thru col. 10, line 67) quality indicator is calculated base on link attributes, such as power information, rate/speed and energy of link.

4. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al in view of Bonta et al and Nikides as applied to claims 1-6, 8-12, 13, 15 and 16 above, and further in view of Chheda.

Regarding claims 19 and 20, as indicated above, Chang discloses (Abstract, Figs. 17A, 17B, 18, 19, 20, col. 1, line 57-67, col. 7, line 25-55, col. 9, line 1 thru col. 10, line 67) supporting power control as associated in a wireless/CDMA radio environment wherein quality indicator bits (QIB), which is a power control command, are extracted by the BTS, power control associated with frame periods, BTS sets frame content, BTS

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determines frame quality indicator (FQI), interface used to connect target BS with source BS to implement a soft handoff, (col. 14, line 12 thru col. 15, line 52) BTS performs a CRC check on radio frames and determines whether the frame is good based on CRC check/signal quality, and the architecture further comprises of BTS and BSC (base station controller), Bonta discloses (Abstract, Fig. 2 & 3, col. 2, line 2-36, col. 3, line 58-67, col. 4, line 15-49, col. 5, line 23-54) performing handoffs in a wireless communication environment wherein the system use environmental variables existing between mobiles and base station, whereby the variables may include radio signal strength indicator (RSSI), FER, BER, (col. 4, line 15-49) samples are used to analyze trend of the conditions leading up to poor signal quality as associated with environment variable measurements and power control and trend of measure as associated with a slope between an interval of measurements and Nikides discloses (Abstract, col. 2, line 1-62, col. 4, line 7 thru col. 8, line 41) signal quality measurements associated with a wireless communication environment, wherein signal quality estimate measurement are compared, a plurality of slope measurements are calculated based on a plurality of signal quality samples, trend information as associated with signal quality and power changes, (col. 2, line 19-23, line 46-61) control commands based on slope measurements associated with trend information and signal quality indicator comparison results. Cheng, Bonta and Nikides are silent on logic encoded in media. In analogous art, Chheda discloses (Abstract, col. 4, line 1 thru col. 5, line 64, col. 6, line 5-37) improved power control as associated in a wireless network, wherein the configuration includes quality indicators for radio frames, power control bits (power

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indicators), quality and power indicators are associated with rate of the frame, energy or channel/link conditions, implementation of soft handoffs, utilization of a computer system that stores/encodes data as related a readable media (logic encoded in media). Therefore, it would have been obvious to implement logic encoded in media as taught by Chheda with the combined teachings of Cheng, Bonta and Nikides for the purpose of further controlling power as well as utilizing determination of quality indicator via a computer medium.

Allowable Subject Matter

5. Claims 7 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claim 17 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

7. Claim 18 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Although the prior art discloses supporting power control as associated in a wireless/CDMA radio environment wherein quality indicator bits (QIB), which is a power

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control command, are extracted by the BTS, power control associated with frame periods, BTS sets frame content, BTS determines frame quality indicator (FQI), interface used to connect target BS with source BS to implement a soft handoff, BTS performs a CRC check on radio frames and determines whether the frame is good based on CRC check/signal quality, and the architecture further comprises of BTS and BSC (base station controller), performing handoffs in a wireless communication environment wherein the system use environmental variables existing between mobiles and base station, whereby the variables may include radio signal strength indicator (RSSI), FER, BER, samples are used to analyze trend of the conditions leading up to poor signal quality as associated with environment variable measurements and power control and trend of measure as associated with a slope between an interval of measurements and signal quality measurements associated with a wireless communication environment, wherein signal quality estimate measurement are compared, a plurality of slope measurements are calculated based on a plurality of signal quality samples, trend information as associated with signal quality and power changes, control commands based on slope measurements associated with trend information and signal quality indicator comparison results, improved power control as associated in a wireless network, wherein the configuration includes quality indicators for radio frames, power control bits, quality and power indicators are associated with rate of the frame, energy or channel/link conditions, implementation of soft handoffs, utilization of a computer system that stores/encodes data as related a readable media, they fail to teach or suggest link parameters weighed unequally in determining quality

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indicator, selecting at the frame selector one of the redundant frames as a selected frame, wherein the selection is based on the quality indicator received from the transceiver, requesting the selected frame from the transceiver holding the selected frame and temporarily holding the redundant frames after reception of redundant frames.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prenell P. Jones whose telephone number is 571-272-3180. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Prenell P. Jones

March 17, 2005


CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800 3/18/05